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| FROM: | David E. Boundy | DATE: | April 1, 2003 |
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Applicant(s): John S. Yates, Jr., et al.

Serial No.: 09/385,394

Art Unit: 2183

Filed: August 30, 1999

Examiner: Richard Ellis

Title: COMPUTER WITH TWO EXECUTION MODES

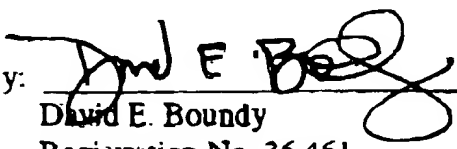
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Dated: April 1, 2003

By:


David E. Boundy
Registration No. 36,461

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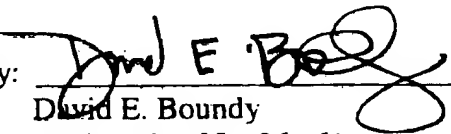
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PATENT

Attorney Docket No. 5231.03-4000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s): John S. Yates, Jr., et al.

Serial No.: 09/385,394

Art Unit: 2183

Filed: August 30, 1999

Examiner: Richard Ellis

Title: COMPUTER WITH TWO EXECUTION MODES

Official



NOTICE OF APPEAL

COMMISSIONER FOR PATENTS

Box AF

Washington, D.C. 20231

Applicant hereby appeals to the Board of Patent Appeals and Interferences from the rejections in the Office Action dated October 1, 2002. Charge the Notice of Appeal fee of \$ 320.00 to Deposit Account 50-0675, Order No. 5231.03-4000.

Advisory Actions between March 12 and March 25, 2003 (papers 16, 17 and 19) variously state that the shortened statutory period for response is extended for five months, to March 1, 2002, or runs to April 1, 2003. If the shortened statutory time period runs through April 1, 2003, this paper is timely, and no extension of time is required. In an abundance of caution, Applicant petitions for a one-month extension of time, and requests that the petition fee of \$110.00 be charged to Deposit Account 50-0675, Order No. 5231.03-4000.

If any further extension of time is required, Appellant petitions for that extension of time required to make timely this Notice of Appeal. The Commissioner is hereby authorized to charge any additional required fees (including all extension of time fees pursuant to 37 C.F.R. § 1.17), or credit any overpayment, to Deposit Account 50-0675, Order No. 5231.03-4000.

Respectfully submitted,

SCHULTE ROTH & ZABEL, LLP

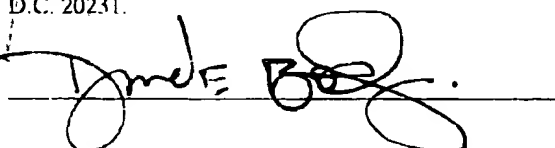
Dated: April 1, 2003By: 

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extremely prolonged and detailed questioning. No meaningful prosecution by Applicant was possible based on the limited statements of the rejections in the First and Second Actions. Final rejection is premature.

A Notice of Appeal was filed on April 1, 2003, and this Petition is filed within two months of the Examiner's decisions of February 10, and well within two months of the Examiner's decisions on reconsideration extending throughout March 2003. Accordingly, this Petition is timely.

I. Preliminary Statement

The general principles for final rejection are stated in MPEP § 706.07. Final rejection practice is the means by which the PTO "deal[s] justly by both the applicant and the public." The Federal Circuit has further explained the fairness grounds that underlie examination and final rejection:

The process of patent examination is an interactive one. The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a **secret objection** harbored by the examiner. The '*prima facie* case' notion ... seemingly was intended to leave no doubt among examiners that they must state **clearly and specifically** any objections (the *prima facie* case) to patentability, and give the applicant **fair opportunity to meet those objections** with evidence and argument. To that extent the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 977 F.2d 1443, 1449, 24 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring, citations omitted, bold added).

Several legal principles set minimum standards for what must be written down in an Office Action during initial examination of claims, to ensure that applicants are given sufficient insight into the Examiner's thought process to provide a "fair opportunity" to meet the Examiner's objections. Together, these standards require an Examiner to set out a rejection in sufficient detail so that an Applicant can determine which of four conditions exist: either (a) the rejection can be seen to be correct, or (b) the Examiner's claim interpretation can be determined and can be seen to be incorrect, or (c) the Examiner's interpretation of the reference can be determined and can be seen to be incorrect, or (d) the legal standard applied by the Examiner can be seen to be incorrect. If an Office Action leaves an Applicant guessing among these four possibilities, the Examiner has failed his statutory duty to "state the reasons for such rejection ... together with such information and references as may be useful in judging the propriety of

continuing the prosecution of his application,” 35 U.S.C. § 132. When an Applicant cannot tell what the issue is, the Examiner has failed to “develop a clear issue for appeal” as required by MPEP § 706.07.

First, 37 C.F.R. § 1.104(c)(2) reads as follows:

“When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”

Note that Rule 104(c)(2) raises two separate requirements, that the “particular part” of the reference be designated, and that the “pertinence ... must be clearly explained.” *Ex parte Gambogi*, 62 USPQ 1209, 1213 (Bd. Pat. App. & Interf. 2002) (“It is not an applicant’s responsibility to set out a clear and concise rejection ... setting out a rejection is the responsibility of the examiner”).

As will be shown below, the Office Actions consistently fail to meet the second requirement – most of each Office Action is a straight paraphrase of an incomplete sample of claim paragraphs, and a “designation” of some portion of the reference said to correspond to the entire paragraph. Almost never does either Office Action break up a claim paragraph to show even the bare designation of the reference corresponding to claim subparts. Neither Office Actions makes more than a few isolated attempts to meet the second requirement – almost no pertinence is explained. There is almost no comparison of particular claim words to particular features of the reference. Applicant is left to read the Examiner’s mind to figure out what claim construction was intended, what element of the reference was thought to correspond, how the Examiner thinks that corresponding elements might be interconnected in a manner that meets the interconnection limitations of the claims, etc.

As became clear in the telephonic interviews and Advisory Actions and as will be explained below, the omission of any required explanation of “pertinence” veiled a number of “secret objections” held by the Examiner. The failure of the Office Actions to set out the Examiner’s position in the manner required by Rule 104 has made it impossible to respond to those “secret objections.” The Examiner has begun to explain his rejections only in Advisory Actions. Finality should be withdrawn so that Applicant will now have a fair opportunity to respond to those positions now made public by the Examiner for the first time in post-final correspondence.

Second, the Federal Circuit and the Office of the Deputy Assistant Commissioner for Patent Examination Policy have worked together to define the elements of *prima facie* rejections. For example, Chapter 2100 of the MPEP quotes *In re Oetiker*, 977 F.2d 1443, 1445-46, 24 USPQ2d 1443, 1445-46 (Fed. Cir. 1995) as follows, MPEP § 2107.02:

The examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. ... If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent."

In its original, *Oetiker* continues:

We think that the PTO is correct in treating the concept of the *prima facie* case as of broad applicability, for it places the initial burden on the examiner, the appropriate procedure whatever the technological class of invention.

See also *In re Rouffet*, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1459 ("To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness.").

The MPEP reinforces the principle that it is an examiner's burden to make a clear *prima facie* showing; it is not an applicant's burden to discern what the Examiner could have written but did not. An applicant is entitled to a complete statement of any rejection in an Office Action, not an Advisory Action, early enough to provide an opportunity to amend any claim that requires amendment. An Office Action that fails to meet these minima, such as the Second Action, is not properly made final.

Third. MPEP §§ 2143 states the minimum requirements that must be met before any *prima facie* § 103(a) rejection can even exist, let alone mature into a final rejection or shift the burden to an applicant to respond (nearly identical statements are reiterated in §§ 2142 and 706.02(j)):

2143 Basic Requirements of a *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally avail-able to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Director imposed this procedural requirement for "reasonable expectation of success" in order to ensure that an examiner's technological analysis would be correct and complete. By omitting any consideration of "reasonable expectation of success," the Examiner has glossed over a host of substantive technological impossibilities, as discussed in more detail in Applicant's December 2002 papers and the attached Affidavit of David Levine.

Here, it is beyond question that no "obviousness" discussion in either Office Action discusses "reasonable expectation of success." Indeed, in a telephonic interview in early March, the Examiner conceded that he did not even realize that there was any requirement for showing of "reasonable expectation of success" until that very day. The Examiner was unable to identify any such showing in any Office Action. This is not a case where there is some disagreement about correctness, or the adequacy of such a showing. Here, Applicant and Examiner have agreed that no showing at all was made in either Office Action.

The only showing of "reasonable expectation of success," and that for only one claim, appears at paper no. 14, ¶ 4.¹ Note that no Advisory Action indicates where showings were made in the Office Actions; rather, Advisory Action no. 14 merely confirms that the Office Actions were silent, and were thus inadequate to mature into final rejections.

An applicant is entitled to have the Examiner's views on "reasonable expectation of success" in a non-final Office Action, so that an applicant has some insight into what the Examiner thinks the reference means. Explanation of the Examiner's view of the reference (a somewhat different showing than "reasonable expectation of success") was only provided in papers 19 and 20, during the last week before the expiration of the six-month statutory period for response. Now that the Examiner has explained himself, it is clear that his understanding is entirely incorrect. (See, for example, the accompanying Affidavit of David Levine). Until those last papers, no "clear issue" had been developed for appeal. Final rejection, of course, can not arise on an issue first articulated by the Examiner in an Advisory Action. Final rejection is premature.

¹ There, the Examiner states that the "reasonable expectation of success" requirement only applies in relation to chemical compounds. This is examiner error. "The standards of patentability applied in the examination of claims must be the same throughout the Office." MPEP § 706. Not even a Group Director has the power to exempt an examiner from a mandatory requirement stated in the MPEP.

Finally, the first Office Action is facially inadequate to constitute a good faith *prima facie* examination of the claims. 94 claims, twenty pages, were presented of examination. 88 of those claims were rejected in three pages of Office Action. Anything added in the Second Action, let alone in any Advisory Action, is a "new ground of rejection." To the extent that these claims are unamended, these new grounds prevent final rejection.

The Advisory Actions at best present *ex post* explanations for what *might* have been done in the First and Second Actions, but they do not even attempt to show that the required steps were taken in the Office Actions themselves. Applicant appreciates the subsequent elaboration in the Advisory Actions. This subsequent elaboration has significantly "filled in the gaps" in the Office Action. However, the Advisory Actions themselves make the existence of these gaps indisputably clear.

The rules for final rejection are structured to ensure that an applicant receives a complete and cogent statement of a rejection early enough to allow a proper response. An Advisory Action is simply too late to make these showings. The rules do not provide for making a first attempt to show a *prima facie* rejection in an Advisory Action, because an applicant has no opportunity to respond to grounds for rejection newly-stated in an Advisory.

II. The Examiner has Admitted that He Rejects Claims Based on Unreasonably Broad Interpretations, and does Not Limit Himself to the "Broadest Reasonable Interpretation Consistent With The Specification"

The Examiner states that he rejects claims "based upon their broadest interpretation." Paper 19 ¶ 16. This is examiner error. MPEP § 2111 states that "During patent examination, the pending claims must be 'given their broadest reasonable interpretation consistent with the specification.'" MPEP § 2111.01 elaborates that when a claim uses a term of art, "the words of a claim must be given their plain meaning. In other words, they must be read as they would be interpreted by those of ordinary skill in the art."

As shown below, the Advisory Actions have revealed that two secret claim constructions were unreasonable, even by the Examiner's admission.

A. The Examiner has Conceded that He Gave the Term "Necessarily" an Unreasonably Broad Interpretation

In paper no. 16, the Examiner states that he construes the term "necessarily" to mean "conditionally." In a telephone interview contemporaneous with paper no. 16, the Examiner

stated that if the word "necessarily" had been left out of the claim, he would have construed the claim as permitting no exceptions, but he examined the claim as if the word "necessarily" introduced some possibility of "not necessarily" into the claim.

No applicant could possibly have guessed that the word "necessarily" was being construed to mean "not necessarily." From the Office Actions themselves, an Applicant naturally assumes that the Examiner has misread the reference or is applying an incorrect legal standard. Had there not been an intensive round of telephone interviews and written Advisory Actions, the unreasonable claim interpretation would never have come to light, and no resolution would have been possible.

In the Examiner's email of March 19, 2003, the Examiner expressly admits that his earlier claim interpretation was incorrect because it was unreasonable, and that the claim "must be interpreted" as advanced by Applicant.

Thus, by the Examiner's own admission, the claim has never been examined based on its correct interpretation. A claim that has never been examined cannot be allowed, and cannot be finally rejected.

Withdrawal of final rejection is both the only proper course, and is only fair. The telephone interviews and Advisory Actions have disclosed a number of *extremely* creative claim constructions. When it comes clear that prosecution has been for naught because of the Examiner's failure to follow PTO regulations, the Examiner should bear the cost of extending prosecution forward on a reasonable basis, not an applicant.

Final rejection is premature.

B. "In the TLB"

Claims 52, 64 and 70 recite that certain information is stored "in" table entries with certain recited properties. These claims are purportedly rejected under § 102(b). Paper no. 11 ¶ 5.

The Office Actions only note that Richter implements a TLB. *E.g.*, paper no. 8 ¶ 10. Neither Office Action attempts to show that the relevant information in Richter '684 is ever stored in Richter's TLB, as would be required if the TLB were relevant to these claims.

As an aside, such a showing would be impossible: Fig. 3 of Richter '684 shows that element 33 (referred to in paper 8 ¶ 10) is not stored in the TLB. The TLB is on the far right side of Fig. 3; the Examiner points to an element on the left side of Fig. 3. Without a showing that all

claim limitations are met, including the interrelationships among claim elements, the rejection is incomplete and final rejection is premature.

At paper 19, ¶ 11, the Examiner redefines the term "TLB" in a manner that is in direct conflict with the very figure of the prior art on which the Examiner purports to rely. This is examiner error; references are to be read "fairly." *In re Schaub*, 950 F.2d 732 (Table), 1991 WL 252968 at **2, 1991 U.S. App. Lexis 28164 at *5 (Fed. Cir. Nov. 27, 1991) (non-precedential) (conclusions of anticipation can only be based on "a fair reading of the reference as a whole"). At the very least, Richter is entitled to "be his own lexicographer," and the Examiner errs in ignoring Richter's own "plain meaning."

The Examiner then compounds the error by failing to show that, even under his definition of TLB, the structure he points to in Richter's figure has the other properties recited in these claims.

At this point, all that is clear is that the Examiner has applied an unreasonable claim interpretation that is inconsistent with at least Richter's specification, but it is not at all clear what the Examiner's current interpretation of these claims is. Does "stored in a table" mean "stored in the TLB," "on the same page of figures as a TLB," or some other interpretation? What construction is given to the surrounding limitations of the claims, and how does Richter's figure meet the other properties recited for the table? Until an applicant is apprised of the basis for rejection, final rejection is premature.

C. Finality Is Premature Before the Examiner Makes Clear All of His Unreasonably Broad Claim Interpretations and Gives Applicant a Fair Opportunity to Respond

Unearthing the Examiner's "secret objection" relating to "necessarily" took several hours' of telephone calls, and at least two rounds of papers back and forth. Hours and papers more have been expended on the "TLB" issue, and the Examiner has still not put forth any internally-consistent explanation for the relationship between the claims and the reference.

But this is only the tip of the iceberg. There is no way to know how many other claim limitations are being given unreasonably broad claim interpretations. Given the amount of time expended on these two limitations alone, it would be impractical to continue on the current course, and unfair to require Applicant to ferret out the Examiner's secret interpretations word by word.

Final rejection is the only rule that the PTO enforces that relates to fundamental fairness. Forcing an Applicant to peel back rejection after rejection layer by layer by layer is not an efficient use of an examiner's time, and is unfair to an applicant. Final rejection provides the counterweight – a rejection can only be made final when a “clear issue for appeal” is developed. When the Examiner has created such remarkable claim constructions and held them shrouded in mystery, no reasonable applicant could even identify the issue, let alone develop it for appeal.

The Examiner should be instructed that he is to interpret all claim terms in the manner required by MPEP §§ 2111, 2111.01.² He should be instructed that any claim interpretation that would raise the slightest bit of surprise must be explicitly stated in any future Office Action.

Final rejection is premature.

D. The Examiner Relies on Webster's Dictionary for Incorrect Definitions

In several of the Advisory Actions, the Examiner points to definitions from Webster's Dictionary for common terms of art. This is examiner error – terms of art “must be read as they would be interpreted by those of ordinary skill in the art.” MPEP § 2111.01; *Bell Atlantic Network Systems, Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1267, 59 USPQ2d 1865, 1870 (Fed. Cir. 2001) (“we have previously cautioned against the use of non-scientific dictionaries lest dictionary definitions ... be converted into technical terms of art having legal, not linguistic significance.”) (citations and quotations omitted).

As is clearly apparent from the specification and as discussed in the accompanying Affidavit of David R. Levine, a number of claim terms have specific definitions in the art that have been ignored by the Examiner. An applicant is entitled to rely on these definitions, or at least is entitled to know when the Examiner is ignoring them. The failure of the Examiner to provide any explanation of the “pertinence” of the references or to explain “reasonable expectation of success” obscured the fact that he was interpreting the claims improperly.

Once the Examiner discloses his “secret objection,” it is relatively simple for an applicant to respond. But the Examiner has disclosed his secret positions only in post-final Advisory

² “The Commissioner has an obligation to ensure that all parts of the [PTO] conform to official policy of the agency, including official interpretations of the agency's organic legislation.” *In re Alappat*, 33 F.3d 1526, 1580, 31 USPQ2d 1545, 1588 (Fed. Cir. 1994) (*en banc*) (Plager, J., concurring). Chapter 2100 of the MPEP is the PTO's official interpretation of the agency's organic statute and it is to be applied during initial examination, and the PTO has a duty to enforce that policy during initial examination.

Actions. These Advisory Actions make clear that the Office Actions were inadequate to apprise Applicant of the bases for rejection.

Final rejection is premature. Further, the Examiner should be instructed that he is obligated to set forth the full "pertinence" of each reference, to explain "reasonable expectation of success," and to interpret the claims in the manner required by MPEP §§ 2111 and 2111.01.

III. A § 102 Rejection may Not be Made Final Where the Examiner has Admitted that the Reference is Not Identical to the Claim, but is at Best "Equivalent"

Claims 51-59, 61-75 and 77-78 recite certain properties of "pages." These claims are purportedly rejected under § 102(b). Second Action (paper no. 11), ¶ 5. But neither Office Action ever attempts to show that the claim limitation "page" is identically met by the reference.

After final rejection, the Examiner explains his "secret objection" – he rejects because the "page" of the claim is only "equivalent" to the "segment" of the reference. Paper 19, page 3, line 6. To reject under § 102(b) for mere "equivalence," not "identity," is examiner error.

The Examiner has never considered Richter's clear statement that "pages," at least in the context of the Richter reference, are not even equivalent to "segments." Richter '684, col. 6, lines 62-67 (noting that "segments" need not be "page aligned"). This point of Richter was brought squarely to the Examiner's attention (Response of December 2, 2002, page 13, lines 7-9). See also Affidavit of David R. Levine ¶¶ 17-20. In yet another examiner error, the Examiner failed to "Respond to All Material Traversed" as he was required to do by MPEP § 707.07(f).

No reasonable applicant could have understood the rejection as framed in the First and Second Office Actions, let alone responded to them in a meaningful manner, when the Examiner himself concedes that his § 102 rejection is based on a reference that does not anticipate, never explained the inconsistency between his position and the reference in an Office Action, and violated Richter's right to be his own lexicographer. The Examiner's internally-inconsistent "secret objection" was only brought to light in paper 19, an Advisory Action. The explanation in the Advisory Action confirms that the explanation of the "rejection" in the Second Action was too misleading to even provide proper notice of the rejection, let alone guide an applicant's further prosecution.

Final rejection is premature and should be withdrawn.

IV. A Number of Claims Recite Limitations That Have Never Been Examined

Claims 23, 28, 57, 75, 76, 78-83, 85, 95, 98-100, 102-103, 112, and 116-126 recite specific method steps that are performed in the context of crossing from one "calling convention" to another. In several cases, this language has persisted unamended from initial filing. Neither Office Action designates any portion of any reference as corresponding to this claim limitation; no Office Action explains the pertinence of the reference to this claim limitation.

The only discussion in either Office Actions is

- ¶ 7(c) of the first Office Action and ¶ 22 of the second Action, which discuss only a broad claim limitation ("two different computer architectures and/or execution conventions"), not the specific narrower "calling convention" limitation of any of these claims
- ¶ 13 of the second Action, which makes only a bald assertion that Richter's computer implements two separate calling conventions, with neither a citation to any column and line number at which Richter expressly teaches calling conventions, or any showing of inherency, or any showing that the surrounding claim limitations are met.

Undeniably, Richter '684 teaches that certain things occur on a change of "computer architecture." But this change of "computer architecture," while relevant to claim 1, is entirely irrelevant to the "calling convention" recited in these claims.

Further, neither Office Action interrelates any "calling convention" that might be said to exist in Richter '684 to the other interrelated limitations on "calling conventions" recited in these claims. Neither Office Action designates any specific column or line number of Richter '684 that corresponds to the "calling convention" limitations of these claims, nor does it "explain the pertinence" as required by Rule 104(c)(2).

The first discussion of this limitation appears at ¶ 4 of paper no. 14, an Advisory Action.³ This is too late. If any rejection is to be maintained, then this discussion should appear in a non-final Office Action.

³ Note that the Advisory Action makes no attempt whatsoever to show how this claim limitation was discussed in either Office Action; it simply raises the issue entirely anew. This is a clear concession that both Office Actions were defective, and that final rejection was premature.

V. All Obviousness Rejections are Incomplete, and Cannot be Made Final

As discussed in section I at page 4 of this Petition, the Examiner has conceded that he has made no showing of "reasonable expectation of success" for any obviousness discussion of either Office Action. Without that showing, Applicant was unable to determine whether the disagreement on the merits related to claim interpretation, the interpretation of the reference, or the legal standard to be applied. No "clear issue" was developed for appeal, and no reasonable applicant could have understood what would be needed to advance prosecution, until the Advisory Actions.

The MPEP is clear, that without a showing of "reasonable expectation of success," no obviousness rejection exists at all.⁴ A rejection that does not exist cannot mature into a final rejection.

In paper 19, ¶ 11, the Examiner states that he need not show "reasonable expectation of success" because a patent is enabling for any speculation that a creative Examiner can invent. This is clear examiner error. In any obviousness inquiry, the Examiner has already conceded that the reference does not teach the subject matter. For the Examiner to apply any presumption of enablement to subject matter that the prior patentee did not invent is facially absurd.

In paper no. 16, ¶ 4, the Examiner shifts the burden to Applicant to produce an affidavit challenging "reasonable expectation of success" in any obviousness rejection. Ironically, in the same paragraph, the Examiner cites his earlier paper no. 14 in which he conceded that he had never even attempted to make any *prima facie* showing of "reasonable expectation of success." Paper no. 14, paragraph spanning pages 1-2.

This is examiner error. MPEP § 2142 is absolutely clear that no burden shifts to an applicant until the Examiner makes the necessary showing of all three elements of *prima facie* obviousness. The Examiner's position is also just plain silly – until the Examiner has clearly stated his theory of unpatentability, it is impractical to require an Applicant to draft an affidavit that addresses every possible point of disagreement, including all "hidden objections" that an examiner might harbor. An Examiner must not be allowed to shift the burden until the Examiner

⁴ It is well-established that where an agency employee acts in "brazen defiance" of agency regulations, that employee's action has no legal existence. *Certain Former CSA Employees v. Dept. of Health and Human Services*, 762 F.2d 978, 984 (Fed. Cir. 1985) (action in violation of agency's own regulation is "illegal and of no effect," emphasis added).

has set out his reasoning in sufficient detail to narrow the issues to a few discrete issues for affidavit or appeal.

The MPEP places the burden on the Examiner to make a *prima facie* showing of reasonable expectation of success." There is no basis to remove that burden from the Examiner. It is undisputed that the October Office Action fails to demonstrate "reasonable expectation of success" for most of the obviousness rejections, and therefore fails to make out a *prima facie* case of obviousness of any claim.

Final rejection is premature. Further, the Examiner should be instructed that it is examiner error to reject a claim for obviousness without making the *prima facie* showings required at MPEP §§ 2143-2143.03, and it is examiner error to shift the burden to an applicant before he has done so.

VI. Conclusion

Applicant petitions that finality of the Office Action of October 1, 2002 be withdrawn. Applicant should then be given an opportunity to respond fully to all issues raised in that Office Action and all subsequent Advisory Actions.

Applicant also requests that the Examiner be instructed that he must follow the MPEP in all respects.

Applicant believes no fee is due. Kindly charge any additional fee, or credit any surplus, to Deposit Account 50-0675, Order No. 5231.03-4000.

Respectfully submitted,

SCHULTE ROTH & ZABEL, LLP

Dated: April 10, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit: 2183

Examiner: Richard Ellis

Serial No.: 09/385,394

Filed: August 30, 1999

Applicant(s): John S. Yates, Jr., et al.

Title: COMPUTER WITH TWO EXECUTION MODES

COMMISSIONER FOR PATENTS
Washington D.C. 20231

I certify that this correspondence, along with any documents referred to therein, is being transmitted by facsimile on APRIL 10, 2003 to The Commissioner for Patents, Washington D.C. 20231.

David E. Boyle

DECLARATION OF DAVID R. LEVINE

I, David R. Levine, declare as follows.

1. I hold the following degrees:

- Ph.D., Computer Science, Stanford University (1973)
- M.S., Computer Science, Stanford University (1968)
- B.A., Physics, Harvard University (1965)

2. My professional experience includes:

- 37 years working as a computer scientist in a variety of areas, including operating systems, programming language design, compilers and optimization, and instruction set architecture design.
- Assistant Professor of Computer Science at Rutgers University
- Assistant Professor of Computer Science at Boston College
- Co-inventor on U.S. Patent No. 6,332,188 for features in the instruction set architecture of Analog Devices' TigerSHARC processor
- Represented Hewlett-Packard company on the ANSI Fortran Language Standards committee
- Participated in the design of calling conventions for several computers, including IBM System/360, HP PA-RISC, Analog Devices TigerSHARC and ADSP-219x, and Intel Micro-Signal Architecture
- Researched and designed translator for assembly language to allow moving programs from one computer architecture to another

3. In preparing this affidavit, I have reviewed the following portions of the prosecution history for application serial no. 09/385,394:

- examiner's paper no. 20
- examiner's paper no. 19
- paragraphs 13 and 17 of examiner's paper no. 8

and U.S. Patent No. 5,481,684 (Richter).

4. To the extent that the following paragraphs state definitions for terms, I am relying on my personal knowledge of the plain meaning given those terms in the art and the interpretation given those terms by those of ordinary skill in the art.

I. Big-Endian vs. Little-Endian Access

5. Richter's big-endian/little-endian mode switch, as described by Richter, controls only the connection between the computer's data registers and memory. Modifying that connection is sufficient to implement the capabilities that Richter describes. Richter makes no mention that his mode switch has any affect on the way that data are stored in registers, nor that it has any effect on the connection between the computer's data registers and the arithmetic or logical units of the computer, nor that it has any effect on the internal operation of the processor. When Richter's computer switches between big-endian and little-endian mode, there is no indication that he intended for the contents of the data registers to be altered. Richter does not discuss any mechanism for byte-reversing the contents of a register after the contents exist in a register. None of these techniques is required to implement the capabilities that Richter describes.

6. If a computer's memory content is stored in big-endian form, and the computer attempts to access that content in little-endian mode (or vice-versa), the access will not give a meaningful result, without some explicit correction. For example, all attempts to move a 4-byte or 8-byte number from memory to a data register in a mismatched access mode will result in incorrect results (except for the rare exception of a palindromic datum). If the little-endian/big-endian access mode used to access a memory location mismatches the convention under which a datum is stored in memory, no further useful computation can be performed on that datum without some explicit correction. Richter does not teach or suggest that any such explicit correction is applied, and no such correction is required to implement the capabilities described by Richter.

7. Paragraph 1 of examiner's paper no. 20 admits that, under Richter's little-endian access, the order of the bytes will be altered as they are moved from memory to a register. Paragraph 1 errs in stating that the value "remains the same" after the byte order is reversed. Changing the order of bytes changes the value represented, just as reversing the order of digits in an everyday base-10 number changes the value.

8. Paragraph 1 of examiner's paper no. 20 asserts that if a 32-bit unsigned integer, stored in memory in big endian order, has a value of 234,567, then a little-endian load into a register of that integer will place the value 234,567 into the register. This assertion of paragraph 1 is incorrect. Rather, a little-endian load of 234,567 (0003A76B in hexadecimal) stored in big-endian form will place the value 113,310,374 (6BA70300 in hexadecimal) into the register. Richter does not discuss any mechanism for converting the value 113,310,374 in the register to 234,567. Richter does not discuss any mechanism for accessing the register in a mode in which the value 113,310,374 in a register will be interpreted as 234,567.

9. Paragraph 1 of paper 20 is incorrect. "Performing a big-endian to little-endian byte-reversal," which is illustrated by the example above, does result in a change in the numerical interpretation of the bits.

10. A computer that behaved as described in paragraph 1 of examiner's paper no. 20 could not reasonably be expected to succeed. Richter's disclosure would not enable one of ordinary skill in the art to develop a computer that operated as described in paragraph 1.

11. Paragraph 2 of examiner's paper no. 20 makes assumptions that are incompatible with the assumptions underlying paragraph 1 of examiner's paper no. 20 and paragraph 3 of examiner's paper no. 19. For example, the latter two paragraphs assume that a single copy of a datum exists in memory, and consider the results of several different kinds of moves from that memory to a register. Paragraph 2 of examiner's paper no. 20 assumes that two separate copies of a stored datum exist, but does not consider the result of any move of any datum. These two analyses are not logically related to each other, and cannot be combined to support any meaningful inference.

12. Paragraph 2 of examiner's paper no. 20 errs in its assertion of "logical equivalence." A computer architect would not consider a memory content of "234,567" to be "logically equivalent" to a register content of "113,310,374."

13. Richter's disclosure is directed to a mechanism that neither involves nor requires mixing little-endian and big-endian access to a particular storage location. Nothing in Richter suggests that Richter even considered it possible to mix meaningful or practical little-endian and big-endian access to the same memory location.

14. The capabilities discussed by the Examiner in paragraphs 1 and 2 of examiner's paper no. 20 and in paragraph 3 of examiner's paper no. 19 are not among the capabilities that Richter ascribes to his computer. The assertions of paragraph 1 of examiner's paper no. 20 attributing certain capabilities to Richter are incorrect. These capabilities are the "invention" of the examiner, not of Richter. Richter does not teach techniques that, without substantial contributions from other art, would achieve the capabilities discussed by the examiner with any reasonable expectation of success.

15. Paragraph 13 of examiner's paper no. 8 discusses "adjusting the data storage content of the computer." No one of ordinary skill in the art would interpret this phrase as embracing a change from big-endian to little-endian access mode, without changing any value of any data storage element of the computer.

II. "Computer Architecture" and "Data Storage Convention"

16. One of ordinary skill in the art would understand that the phrases "computer architecture" and "data storage convention" refer to two different things. A discussion of one does not necessarily imply discussion of the other.

III. "Segment" vs. "Page"

17. The word "segment" has two different interpretations among those of ordinary skill in the art. The two interpretations are quite different from each other. At col. 6, lines 62-67, Richter uses the term "segment" in a manner that makes clear to one of ordinary skill in the art that Richter intends an interpretation for "segment" that relates to memory protection. Richter, along with essentially all other discussions in the art of the Intel X86 architecture, uses the word "segment" to refer to a feature of a memory protection system.

18. In contrast, the definition provided at paragraph 5 (pages 2-3) of examiner's paper no. 19, based on Rosenberg's dictionary, refers to a different definition of "segment" that is irrelevant Richter's use of the word "segment."

19. The art uses the word "page" to refer to a feature primarily related to implementation of a virtual memory system.

20. In view of Richter's express statement of the differences between his "segments" and "pages," at col. 6, lines 62-67, no one of ordinary skill would interpret the word "page" as having any relationship to Richter's "segments," let alone a complete identity.

21. I express no opinion on any issue not expressly set forth above.

22. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Dated: April 10, 2003

By: David R. Levine